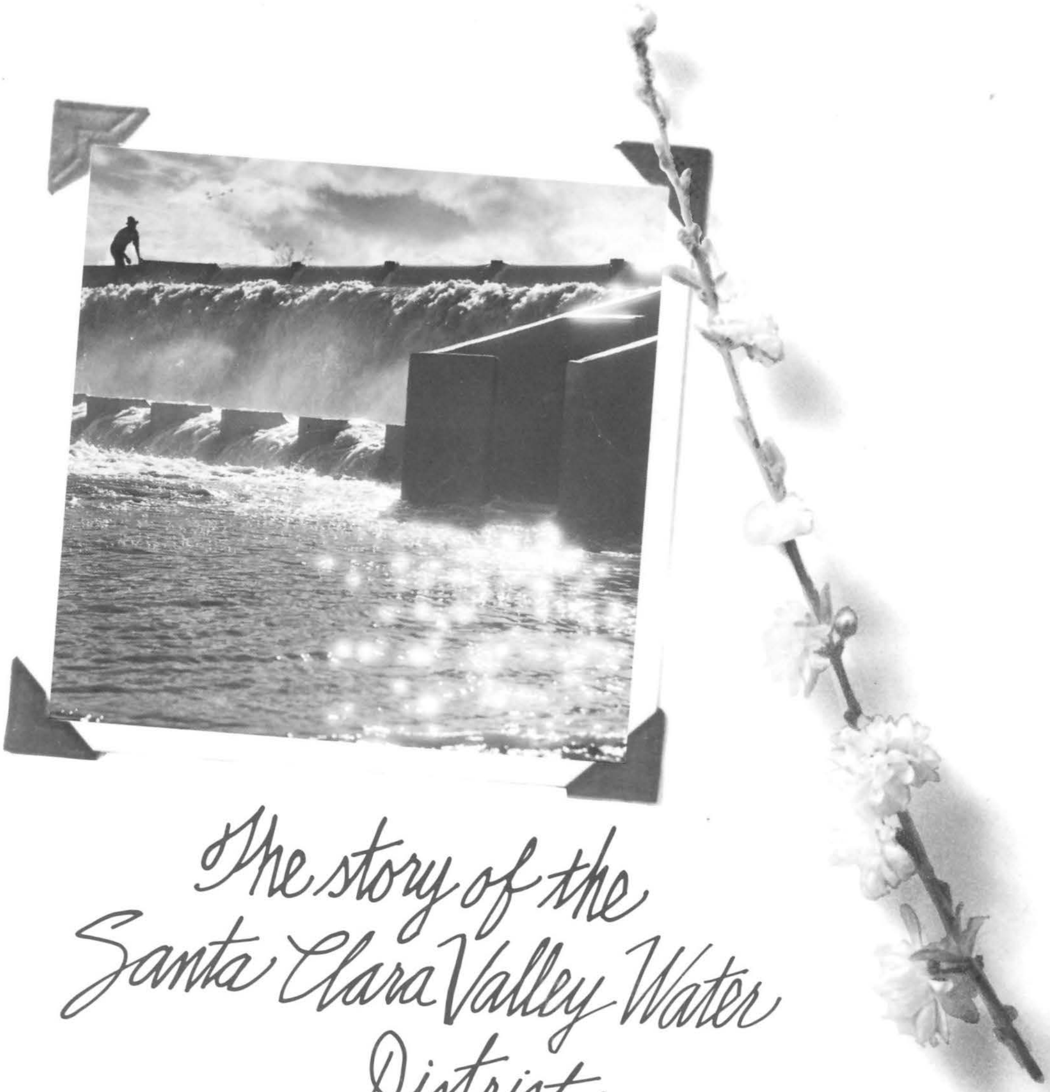

The story of the Santa Clara Valley Water District

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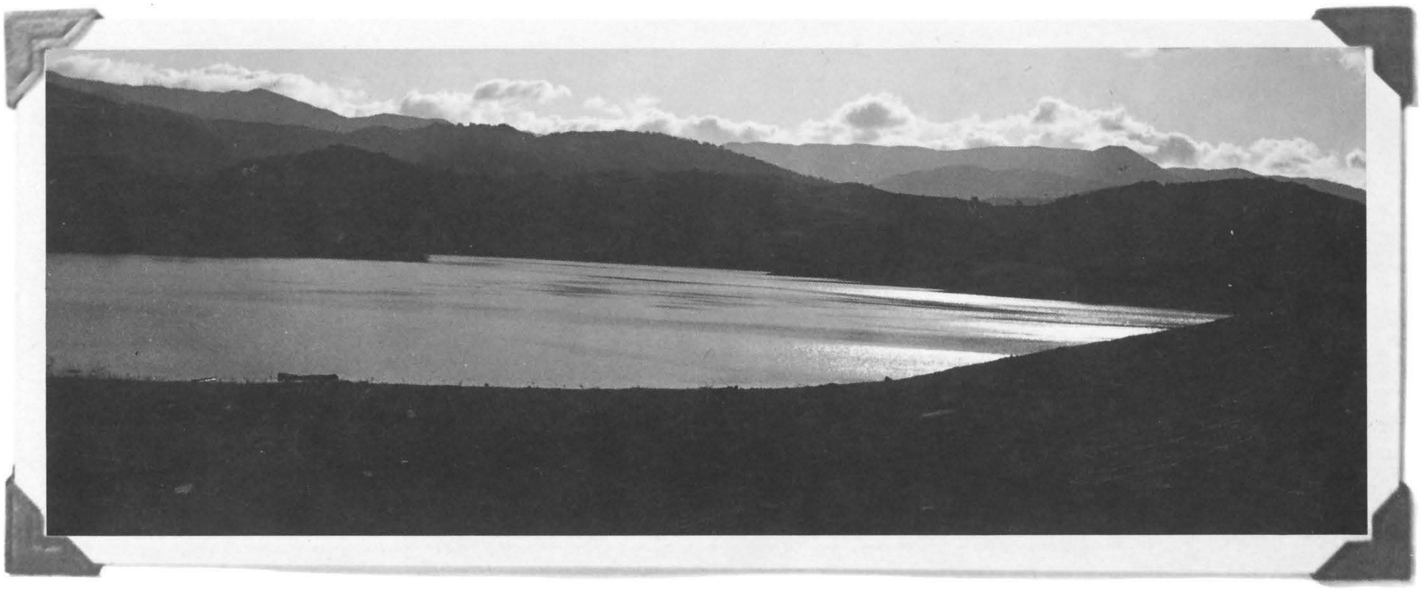
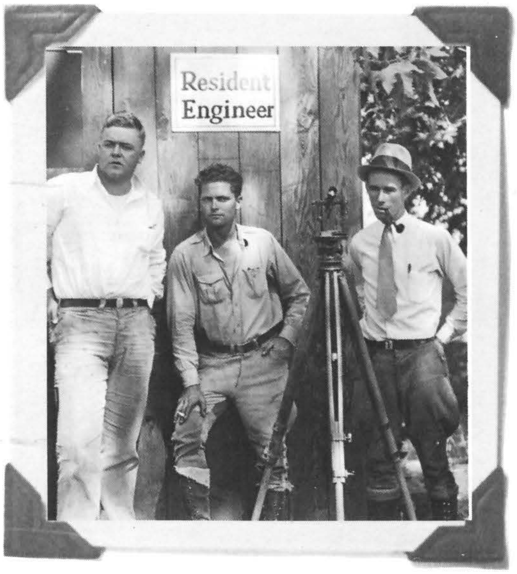
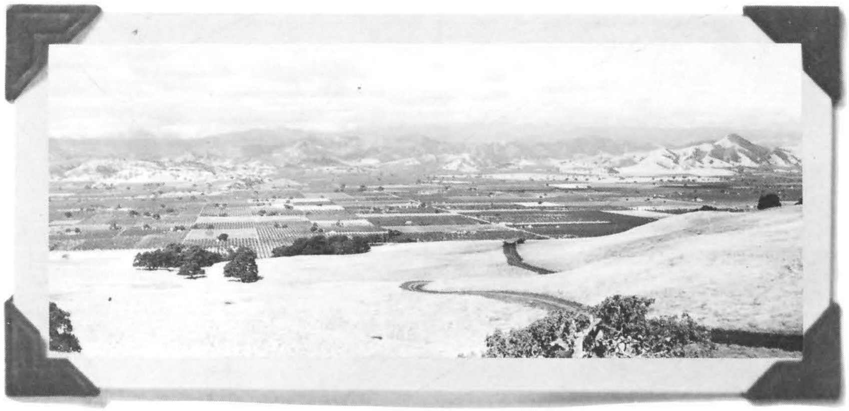






Land, Water and People: Sketching Yesterday and Today

Valley of Heart's Delight, 1923

When Roscoe Wyatt titled his 1923 San Jose Chamber of Commerce film about the Santa Clara Valley "The Valley of Heart's Delight" he wasn't just making an idle boast.

The Valley floor was covered with acre upon acre of prosperous orchards. It was truly a green and beautiful land.

Today, more than half a century later, the Valley remains green and beautiful with countless acres of landscaping and agriculture. But many other acres of food crops have given way to a bumper crop of rooftops. The slow pace of life Roscoe Wyatt knew has quickened. Santa Clara Valley today pulses rapidly as one of California's major industrial and residential centers.

Still, the Valley of Heart's Delight of the 1920s has one thing in common with the Valley of today—a concern about the water supply.

Few people realize that the Valley is a semiarid region. Only 14 inches of rain fall on the Valley floor in an average winter, and this isn't nearly enough to supply all the needs of today's homes, businesses, and farms. It wasn't enough in the 1920s either, when people set about to form a water conservation district.

This public agency, known now as the Santa Clara Valley Water District, was created in 1929 because the Valley's residents wanted to overcome the threat of inadequate water supply.

Today the district is more than ever committed to providing an adequate supply of water and comprehensive water management services throughout Santa Clara County.

The Valley's water needs have changed as the occupations of its residents have changed over the years. A brief review of the events in the interplay of land, water, and people in the Valley will show how the water district came into being and how it has handled the steadily growing need for water.

The first inhabitants of the Valley, the Native Americans, depended entirely on nature for their water. When a stream dried up in one place, they simply moved on to another.

From 1777 until the mid-1850s the Valley floor was covered by large Spanish land grant ranchos. Grazing of sheep and cattle was just about the only commercial use of the land; the wild grass and food crops were at the mercy of the widely varying amounts of rain that fell during the winters. The early European settlers also learned that floods were as much a problem in some years as drought.

Leroy Anderson (seated far left)
and Valley leaders see water plans

By 1850 the mission and rancho cultures had changed. Frustrated gold seekers and others moved here to homestead farms. Their first crops were mostly wheat, which could be raised by dry farming. In a large part of the Valley the groundwater was under pressure and rose to the surface in artesian wells. People used these and shallow pit wells dug by hand to meet their modest needs.

Pierre Pellier discovered in 1856 that the Valley's soil was perfect for raising French prunes. By 1875 local dried prunes were popular nationally. The orchards required irrigation, though water seemed at the time to be plentiful as deeper wells were drilled to tap the underground supply.

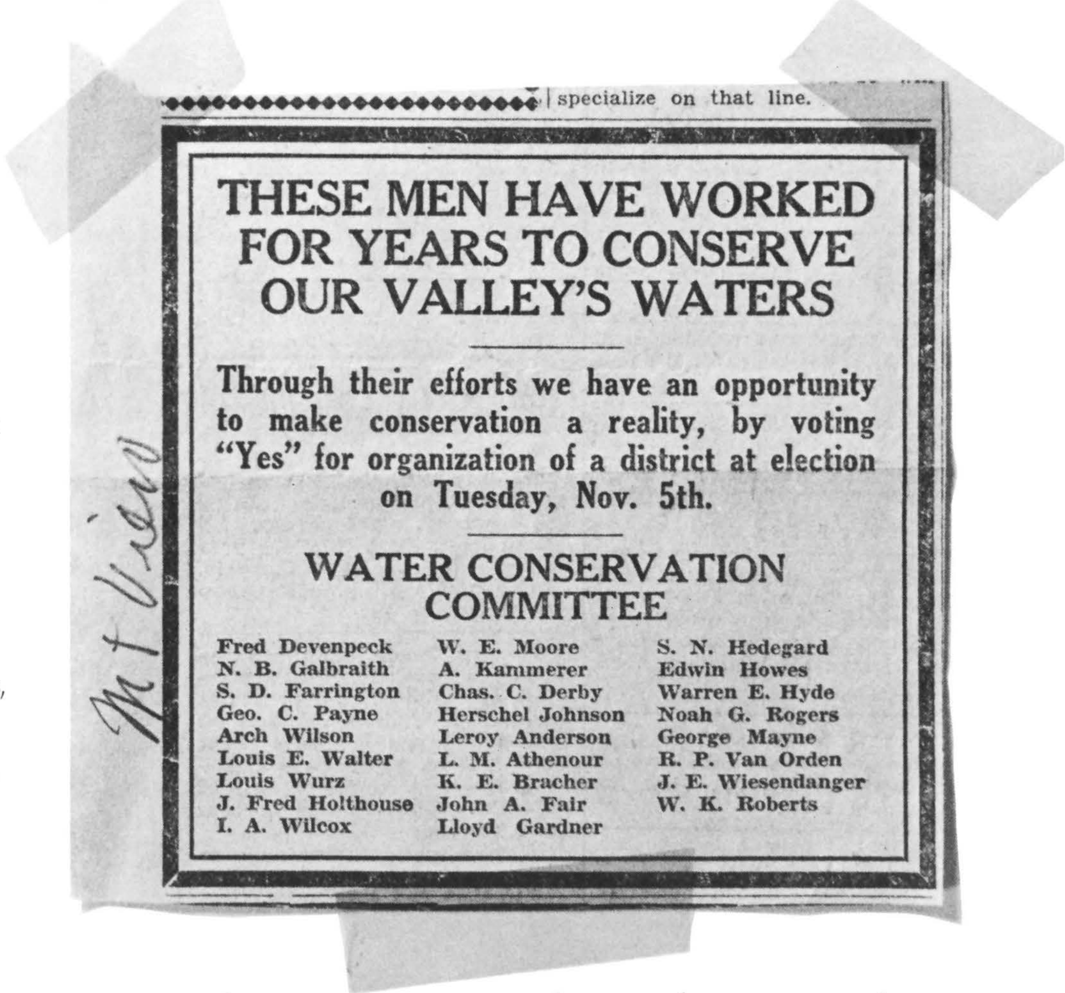
But the water supply picture changed after the dry spell from 1898 to 1908. Invention of the deep well turbine allowed the pumping of water from greater depths as the water table and artesian pressure dropped.

In 1913 a group of farmers from Campbell tried to get federal money to build irrigation projects, but their hopes were dashed by the distraction of World War I.

Following the war, Leroy Anderson, State Senator Herbert C. Jones, Assemblyman L. D. Bohnett, and other leaders seriously concerned about the dropping water table tried to form a water conservation district. A study prepared in 1921 by San Francisco engineers Fred H. Tibbetts and Stephen E. Kieffer showed that groundwater basins could be replenished by spreading water over the surface of gravelly areas—a process called artificial recharge. The study recommended a system of dams, canals, and recharge basins (commonly called percolation ponds), paid for by a water district that could tax property owners and call for bond elections. Elections were held in 1921 and 1925 to create such a district. Both failed.

Water Management Begins

Undaunted, Anderson continued to work tirelessly through a conservation association to show how winter rains could be captured and later percolated into the underground. He and others also worked to create new interest in a water conservation district. Their satisfaction came in 1929 when voters, under a new law authored by Senator Jones, overwhelmingly approved the formation of the Santa Clara Valley Water Conservation District. The district included about 350 square miles of the Valley which overlay the groundwater basin between Coyote and Palo Alto. Organized water management had begun at last.



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Mt View

THESE MEN HAVE WORKED FOR YEARS TO CONSERVE OUR VALLEY'S WATERS

Through their efforts we have an opportunity to make conservation a reality, by voting "Yes" for organization of a district at election on Tuesday, Nov. 5th.

WATER CONSERVATION COMMITTEE

Fred Devenpeck
N. B. Galbraith
S. D. Farrington
Geo. C. Payne
Arch Wilson
Louis E. Walter
Louis Wurz
J. Fred Holthouse
I. A. Wilcox
W. E. Moore
A. Kammerer
Chas. C. Derby
Herschel Johnson
Leroy Anderson
L. M. Athenour
K. E. Bracher
John A. Fair
Lloyd Gardner
S. N. Hedegard
Edwin Howes
Warren E. Hyde
Noah G. Rogers
George Mayne
R. P. Van Orden
J. E. Wiesendanger
W. K. Roberts

Voters OK Creation of District by 9-1 margin!

Subdivisions crowding out orchards

Calero Dam finished in 1935

'55 San Jose flooding

In 1933 the public became even more aware of the water problem when a geological report noted that the Valley floor between Coyote, Redwood City, and Milpitas was sinking—or subsiding—due to excessive pumping of water. To capture winter floodwaters for replenishing the excessively overdrawn groundwater basin, the community voted in favor of bonds to build the first six district dams: Almaden, Calero, Coyote, Guadalupe, Stevens Creek, and Vasona.

The six new dams were completed by 1935; a serious drought was broken in 1937, and the ground water level increased. Between 1937 and 1942 nature and the district dramatically restored the groundwater basin. But agriculture, industry, and homes were demanding more each year.

Santa Clara Valley's population almost doubled between 1940 and 1950, reaching 295,000 in 1950. Industry expanded, requiring large amounts of water. With these new demands on supplies and yet another prolonged drought between 1943 and 1950, the average groundwater levels dropped dramatically.

By this time the orchards that had been planted 50 to 60 years before in the north Valley were almost worn out. New homes were crowding the orchards and taxes on farmland skyrocketed. Farmers were faced with the decision to either stay in agriculture or sell the land for subdivisions. Most of those who continued farming turned to more profitable row and flower crops that needed even more water than orchards.

By the late 1940s, land surface subsidence was occurring at a high rate because of continued overpumping of the groundwater supply. It was obvious to the community that more dams should be built and that plans had to be made for importing water from outside the Valley to satisfy planned future growth.

BOATING ON SAN FERNANDO ST.
NEAR VINE ST. MARCH 7-1911.

Gov. Pat Brown signs South Bay Aqueduct contract 1961

First, bond issues were passed in 1947 to build Lexington Dam and in 1948 to build Leroy Anderson Dam. Anderson Dam, located east of Morgan Hill on Coyote Creek, was completed in 1950 with a capacity of 91,000 acre feet—more than doubling local reservoir capacity. Lexington was finished in 1952.

Looking to the future, preliminary plans were made for tunneling through Pacheco Pass east of Gilroy. Such a project would allow delivery of water from the U. S. Bureau of Reclamation's future San Felipe project.

Dealing With Floods

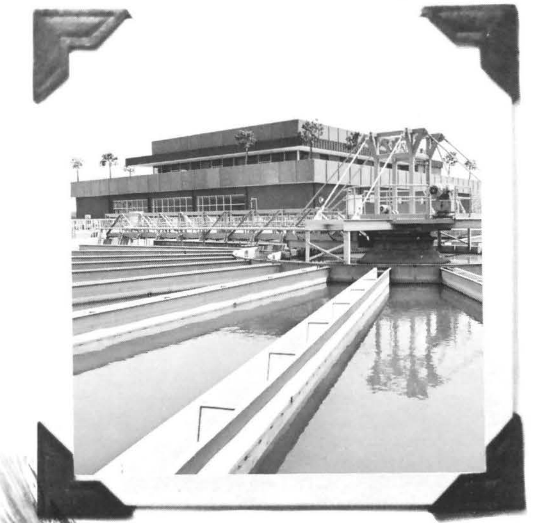
Having too little water for community needs was not the only local water management problem at mid-20th century. Sometimes there was too much water. As more and more people settled into low-lying "floodplain" areas, flooding, which in early years had been only a nuisance to farmers, suddenly became a genuine community problem. Nevertheless, construction of buildings proceeded at a rapid pace and with little regard to flood potential.

At the request of local cities and the county, the State Legislature created the Santa Clara County Flood Control and Water Conservation District in 1951. The newly created district had two purposes. The first was to plan, construct, and maintain flood protection facilities. The second was to supplement water supply programs of the Santa Clara Valley Water Conservation District.

Going Countywide and Importing Water

The flood control district was countywide and had broad powers, including the ability to contract for "imported" water. It was known that the local supplies could not continue to meet all the needs of the area, so the new district started making plans to import water. In 1961 the flood control district signed a contract with the State of California to import water from the future South Bay Aqueduct of the State Water Project. First deliveries of this water were made in 1965.

Rinconada Water Treatment Plant, Los Gatos



In 1967 Congress authorized construction of the San Felipe project by the U.S. Bureau of Reclamation (USBR).

With the Valley water convervation district operating a vast reservoir and groundwater recharge system, and the county flood control district contracting to bring in a major supply of water from the State Water Project, it was apparent that water supply planning was not as coordinated as it should have been. In 1968 the two districts merged into a countywide water management agency under the name Santa Clara County Flood Control and Water District.

By 1969, following four years of importing state water for groundwater recharge and direct treatment and surface delivery, the district had significantly replenished the badly depleted groundwater basin and halted land surface subsidence.

But the district, knowing as it had for many years that the San Felipe project was needed in addition to state water, continued contract negotiations with USBR. At the same time, in the early 1970s, the district started engineering and environmental studies for local distribution of future water.

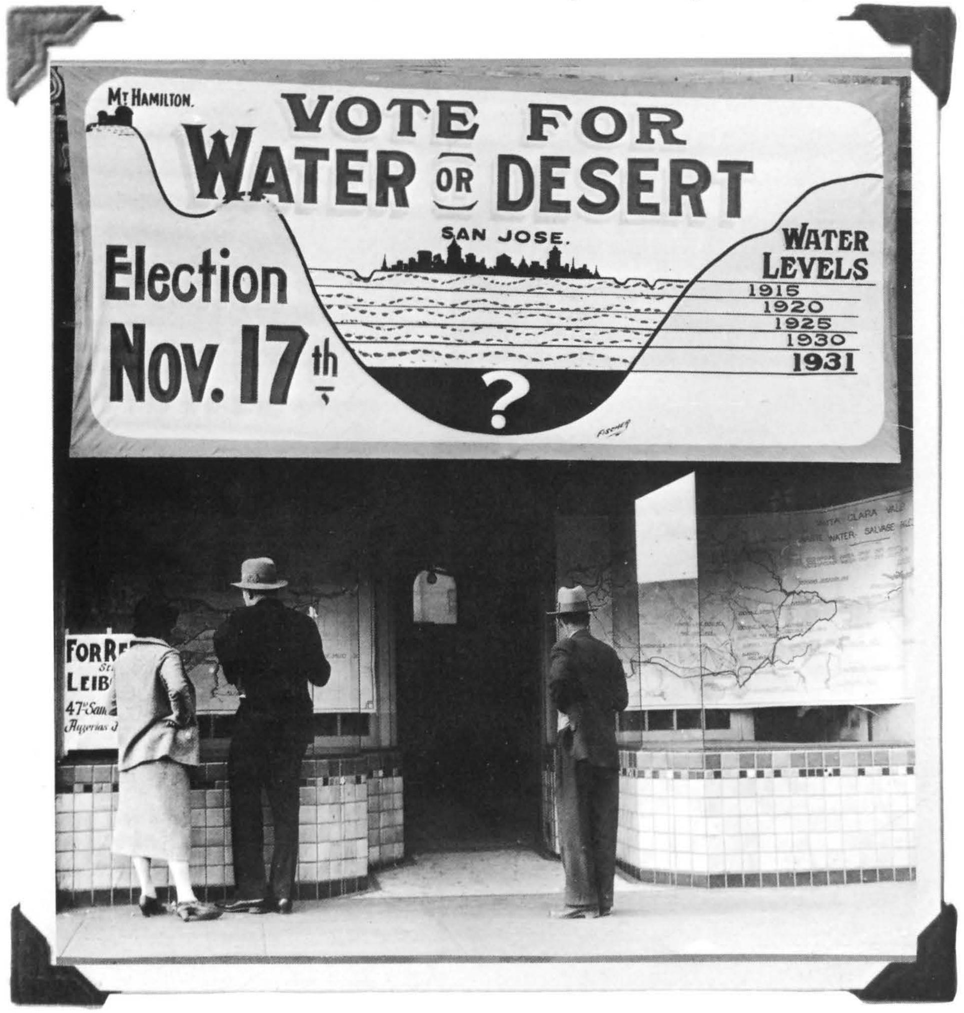
In 1974 the district's name was changed to Santa Clara Valley Water District.

In 1977, continuing a half-century pattern of supporting absolutely necessary water development, voters approved a $56 million bond issue to expand the existing in-county distribution system. The funds will be used to construct storage, treatment, groundwater recharge, distribution, and reclamation facilities, and also to treat and distribute water brought in by the San Felipe project.

A contract between the district and USBR for delivery of federal water was signed in 1977.

District Formation Events.

Conservation District goes to the people for support

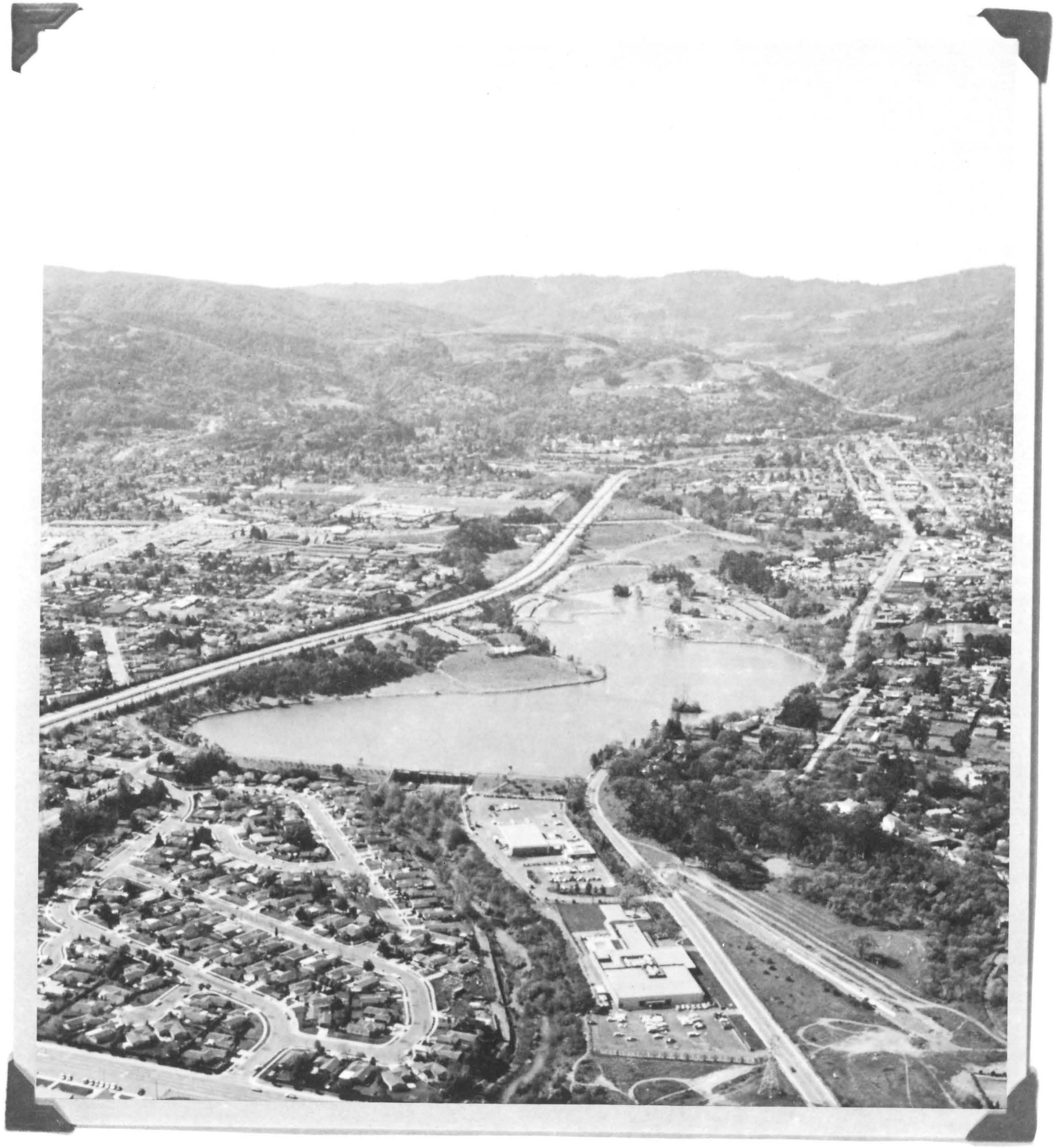


Flood Control District gets busy, 1950s

New name, 1974

Water Conservation and Flood Control merge, 1968

Santa Clara Valley in 1970s



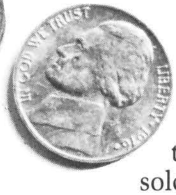
Directors Meet Public Needs

Today the Santa Clara Valley Water District manages water resources throughout Santa Clara County by working to provide flood protection and assuring that there is always an adequate supply of good quality water for people who live and work here. Policies and programs are set by seven directors, five elected from county supervisorial districts and two appointed at-large by county supervisors. The Board of Directors meets in public session regularly at 5750 Almaden Expressway, San Jose.

The district board not only encourages public participation but actively seeks it. Final project decisions are made only after the board exhaustively searches for ideas from area residents and special interest groups such as business and environmentalists.

For example, when dealing with flood protection, district staff members go out and talk with people who live near a stream that presents a flood hazard before they draw up any plans. After working up preliminary plans, the staff again meets with neighbors to get their views on such things as alternative designs, whether the creekside should have public access routes, and how the project should be landscaped. Because each creek situation is unique, and different people have different wishes, flood control projects vary from creek to creek. It is common to find staff and directors walking through creek areas with members of the public for a firsthand view.

Revenue: Water Sales, Taxes, Bonds



The district has a variety of revenue sources to pay for the many benefits it provides: *Water Supply:* the primary sources of revenue to pay for water supply benefits are the district's water charges and ad valorem taxes. Water charge rates and tax rates are set by the district in accordance with its water pricing policy; this policy is based on two important concepts of water resource management. The first concept says the user should pay for benefits received. The second is a pooling concept under which the costs of providing water within a given zone of benefit are combined so that water used in that zone is considered to have a uniform value regardless of source or cost.

Water pumped from the groundwater basin by cities, water companies, industry, farmers, and others who operate wells is subject to a groundwater extraction charge, commonly called a pump tax. This charge is not for the water itself but an excise on the pumping activity. The pump tax for agricultural water use is one-quarter of the rate for municipal and industrial water use.

Water which is processed through the treatment plants is sold to retail water companies. For each acre-foot of treated water, they pay both a basic water charge, comparable to the pump tax mentioned above, and a charge to meet the costs of treating the water.

In addition to water charges, the district levies property taxes to pay for general benefits that serve large areas of the county. These presently include the water fund tax, the Zone W-4 tax, and the Zone W-3 tax.

The district's major water importation, distribution, and conservation projects are financed by general obligation and revenue bonds, subject to voter approval; by cash reserves; and by state and federal grants and loans.

Flood Protection: The district is divided into five flood control zones that conform to the boundaries of the major watersheds affecting the Valley floor. Property owners pay taxes which support flood control planning, design, construction, and maintenance projects in their particular zone. These are the Northwest, North Central, Central, East, and South Zones. Recommendations on which flood protection measures are to be undertaken are made to district directors by an advisory committee in each zone. Major flood control works may be financed by general obligation bonds that are subject to the approval of the voters in a given zone.

District Administration: The administration of the district is paid for by a countywide property tax.

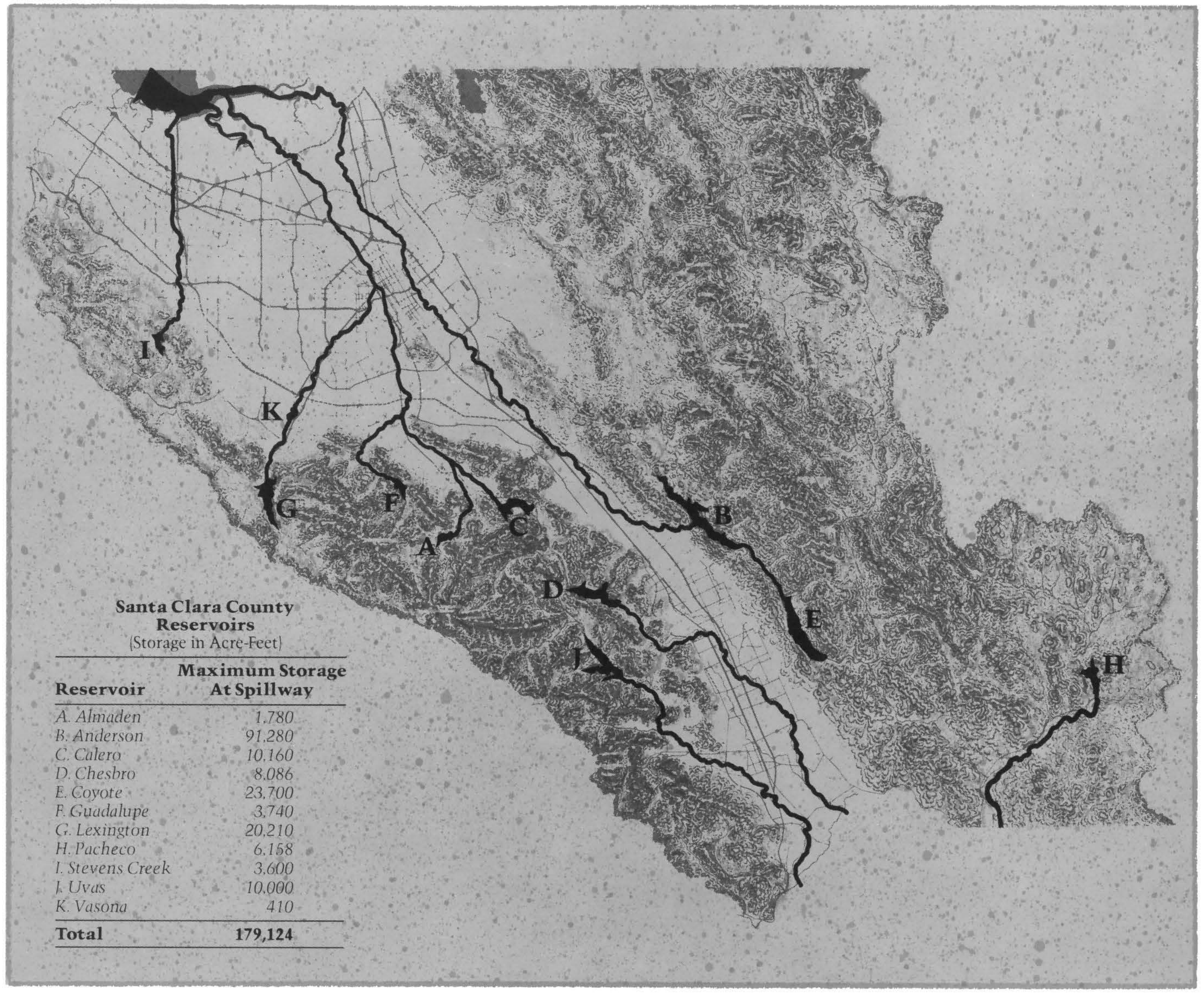
Reservoirs and Percolation

Almost every drop of rain that falls within the county goes one of four ways. It can seep into the ground and add to the shallow or deep groundwater supplies. It can run off, collecting in streams that flow into San Francisco Bay or Monterey Bay. It can evaporate. Or, it can be used by plants—a process called transpiration.

One of the district's jobs is to capture some of the water and later use it to replenish vast underground water basins that lie beneath the Valley floor. Groundwater is the source of more than half of the water used in the Valley.

Three main groundwater basins in Santa Clara Valley are: the Llagas basin, from Gilroy to Morgan Hill; the Coyote basin, from Morgan Hill to Coyote; and the Santa Clara Valley basin, stretching from Coyote north to Palo Alto and Milpitas. Together, the three basins yield between 230,000 and 250,000 acre-feet of water each year.

About 40 percent of the Santa Clara Valley groundwater basin's yield comes from rainfall that seeps into the ground from the streams; another 40 percent is from the water that is captured in reservoirs behind dams and later released to flow slowly in the streams or be diverted into off-stream recharge basins. The final 20 percent is from imported South Bay Aqueduct water that is recharged.



Santa Clara County Reservoirs
(Storage in Acre-Feet)

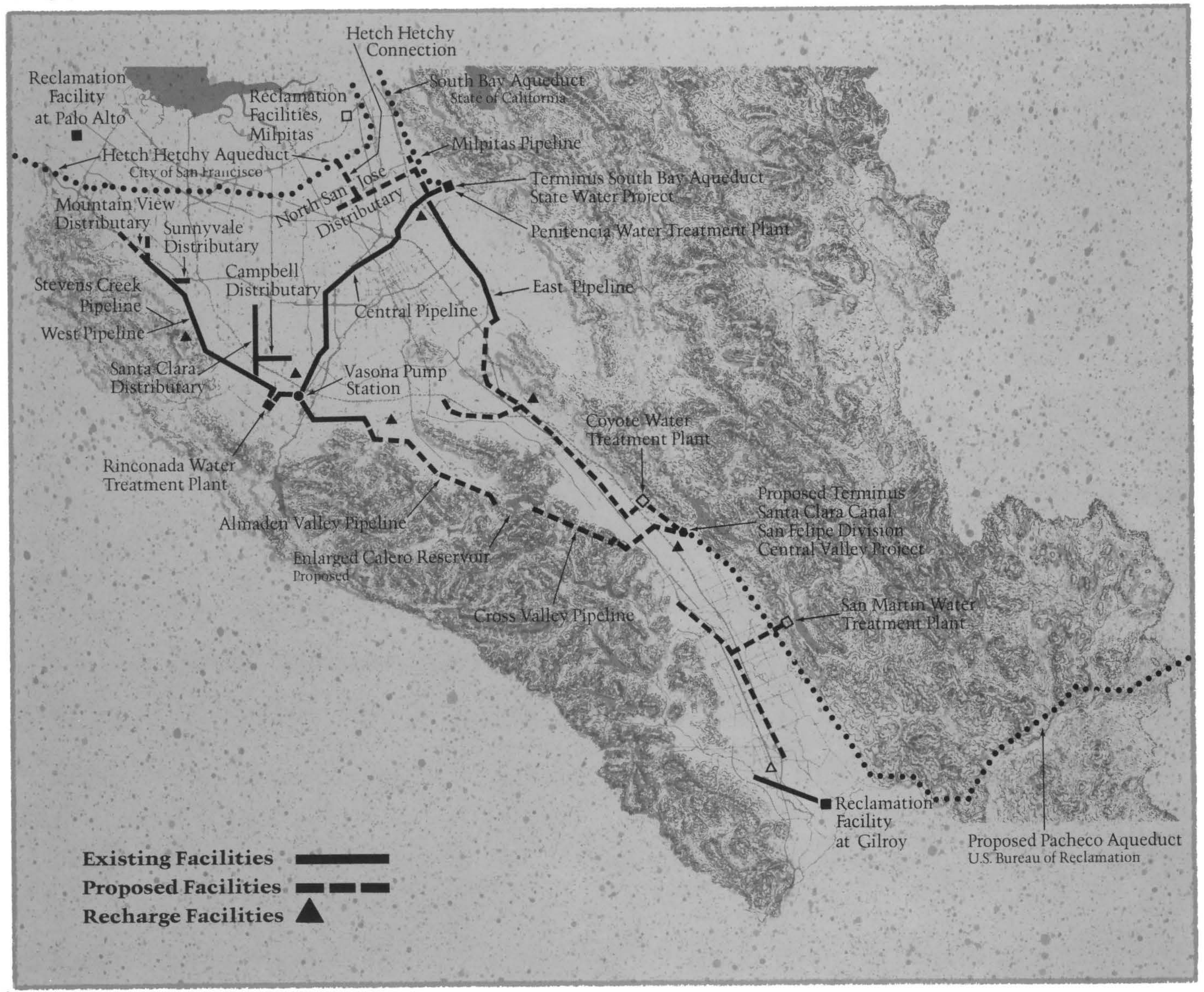
Reservoir	Maximum Storage At Spillway
A. Almaden	1,780
B. Anderson	91,280
C. Calero	10,160
D. Chesbro	8,086
E. Coyote	23,700
F. Guadalupe	3,740
G. Lexington	20,210
H. Pacheco	6,158
I. Stevens Creek	3,600
J. Uvas	10,000
K. Vasona	410
Total	**179,124**

Water Distribution System

South Bay Aqueduct water enters northern Santa Clara County along the eastern foothills. At a site overlooking Upper Penitencia Creek, up to 20 million gallons a day are routed to the Penitencia Water Treatment Plant. Some additional water is sent to east Valley groundwater recharge facilities. The rest is sent across the valley through the Central Pipeline to Vasona Pump Station. From there, some water is sent to the groundwater recharge network, and up to 40 million gallons per day goes to the Rinconada Water Treatment Plant.

The in-county water distribution system connects the sources of imported water, local reservoirs, and water treatment plants to form a flexible, integrated water supply network.

The system extends over some 51 miles and handles flows of water up to 200 cubic feet per second. The deliveries of water through this system are managed through electronic control systems located at both treatment plants.



The groundwater basin is an integral part of the in-county water distribution system because it transmits, stores, and treats water. It is so efficient at these tasks that it would take hundreds of miles of pipeline at a cost of millions of dollars to duplicate its transmission capacity; it would take 20 Anderson Reservoirs to match its storage capacity; it would take three to four Rinconada Water Treatment Plants to do the same job of water purification.

Geologically, the groundwater basin is a marvel. It was formed by ancient floods that deposited clay, silt, gravel, sand, and bedrock that in some areas lie more than 2,000 feet below the Valley floor. The groundwater basin can be thought of, in a simplified manner, as a gigantic bowl filled with sand. Readers who consider that 35 percent of a bowl of water can be poured into a similar-sized bowl of sand can get an idea of this tremendous storage capacity of the groundwater basin.

The basin is actually a series of "aquifers," which are water-bearing strata separated by clay layers. Water is stored in the aquifers, not in huge underground caverns such as those found in some parts of the United States. The clay layers also contain water but do not yield it readily to wells.

Aquifers are constantly replenished by the district not only to provide a continuing supply of water but to repel saltwater intrusion from San Francisco Bay and to reduce land subsidence. The replenishment occurs in streams and off-stream ponds.

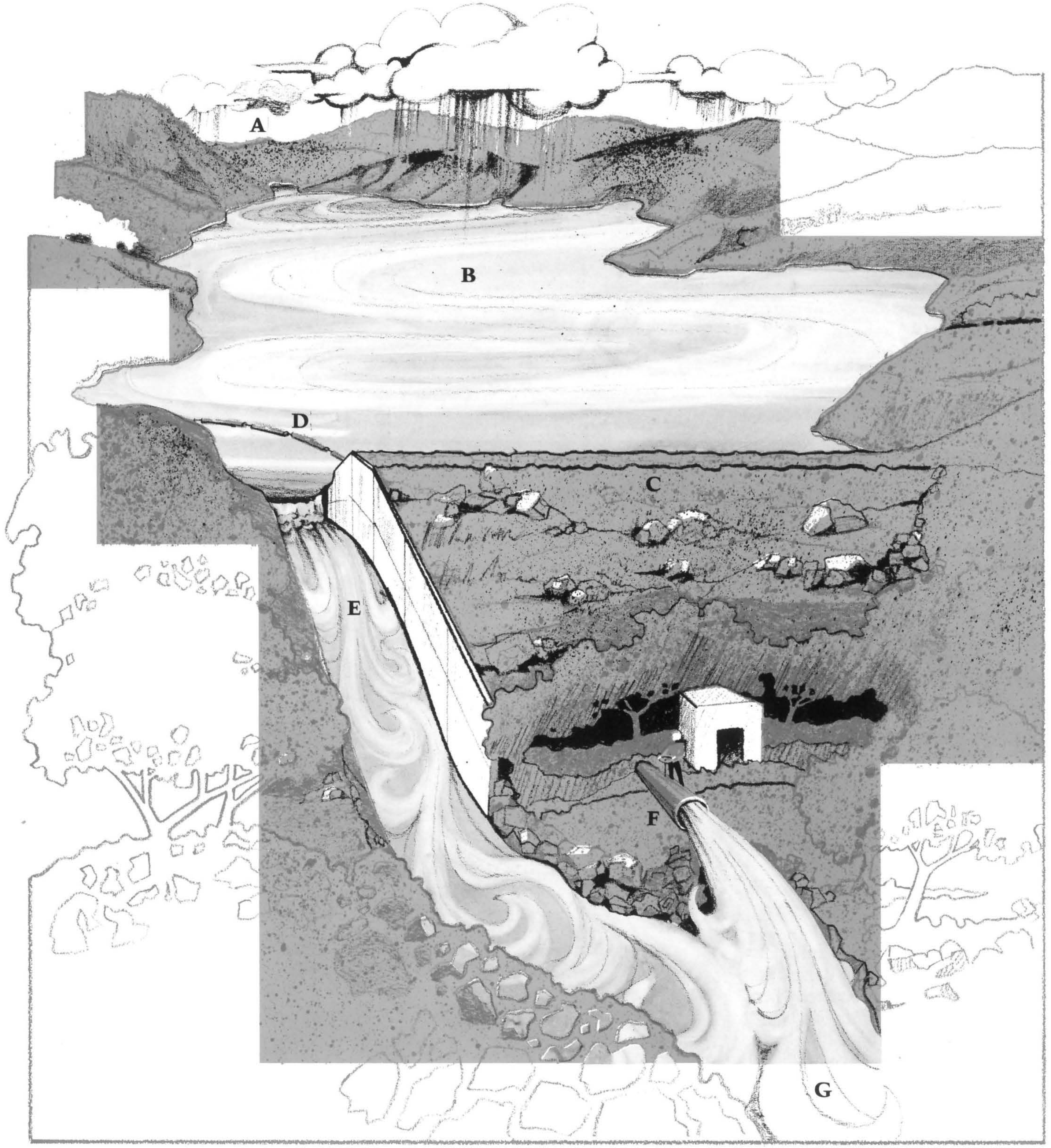
On-stream recharge takes place when rainwater or water released from reservoirs flows into the sandy-gravelly bed of a stream and then seeps downward into an aquifer. Off-stream recharge is carried on in groundwater recharge (percolation) ponds; these are located at carefully chosen sites where gravels and sands are naturally deposited at or near ground level and where water can soak down most easily into aquifers. The sites are few and far between because most of the Valley floor is covered by thick layers of nearly impermeable clay.

Water Retailers and Water Sources in Santa Clara Valley

Municipal Agency	**Source of Water**
Cupertino	*Groundwater, South Bay Aqueduct*
Gilroy	*Groundwater*
Milpitas	*Hetch Hetchy*
Morgan Hill	*Groundwater*
Mountain View	*Groundwater, Hetch Hetchy*
Palo Alto	*Hetch Hetchy*
San Jose	*Groundwater, South Bay Aqueduct, Hetch Hetchy*
Santa Clara	*Groundwater, South Bay Aqueduct, Hetch Hetchy*
Sunnyvale	*Groundwater, South Bay Aqueduct, Hetch Hetchy*
Water Company	**Source of Water**
California Water Service Company (serving parts of Los Altos, Cupertino, Sunnyvale, Mountain View)	*Groundwater, South Bay Aqueduct*
Campbell Water Company (serving parts of Campbell)	*Groundwater, South Bay Aqueduct*
Great Oaks Water Company (serving South San Jose)	*Groundwater*
Purissima Hills County Water District (serving parts of Los Altos Hills)	*Hetch Hetchy*
San Jose Water Works (serving parts of San Jose, Campbell, Saratoga, Monte Sereno, Los Gatos)	*Groundwater, Surface Reservoir Storage, South Bay Aqueduct*
Moffett Naval Air Station	*Hetch Hetchy*
Stanford University	*Groundwater, Surface Reservoir Storage, Hetch Hetchy*

Legend: Dams/Percolation

A. *Watershed—The drainage area above a dam.*
B. *Reservoir—The basin behind a dam which holds water. The water itself.*
C. *Dam—A barrier built to hold back water.*
D. *Log Boom—Floating logs chained together which keep debris from passing into the spillway.*
E. *Spillway—Once the reservoir is full, the spillway carries away excess water.*
F. *Outlet Works—The valve at the bottom of the reservoir (like a plug in a sink) which when opened releases water through a pipeline under the dam. The water flows into the stream channel.*
G. *Stream Channel—The natural stream on which the dam is built. The stream carries flood waters to a bay or ocean.*
H. *On-stream Percolation—Water seeps down through gravels and sands in the streambed into an aquifer.*
I. *Off-stream Percolation—Ponds built near streams in the same type of natural gravel and sand-deposits as found in streambeds.*
J. *Aquifer—Water-bearing strata below the earth surface.*
K. *Well—A hole drilled into the earth to tap the water stored in an aquifer.*

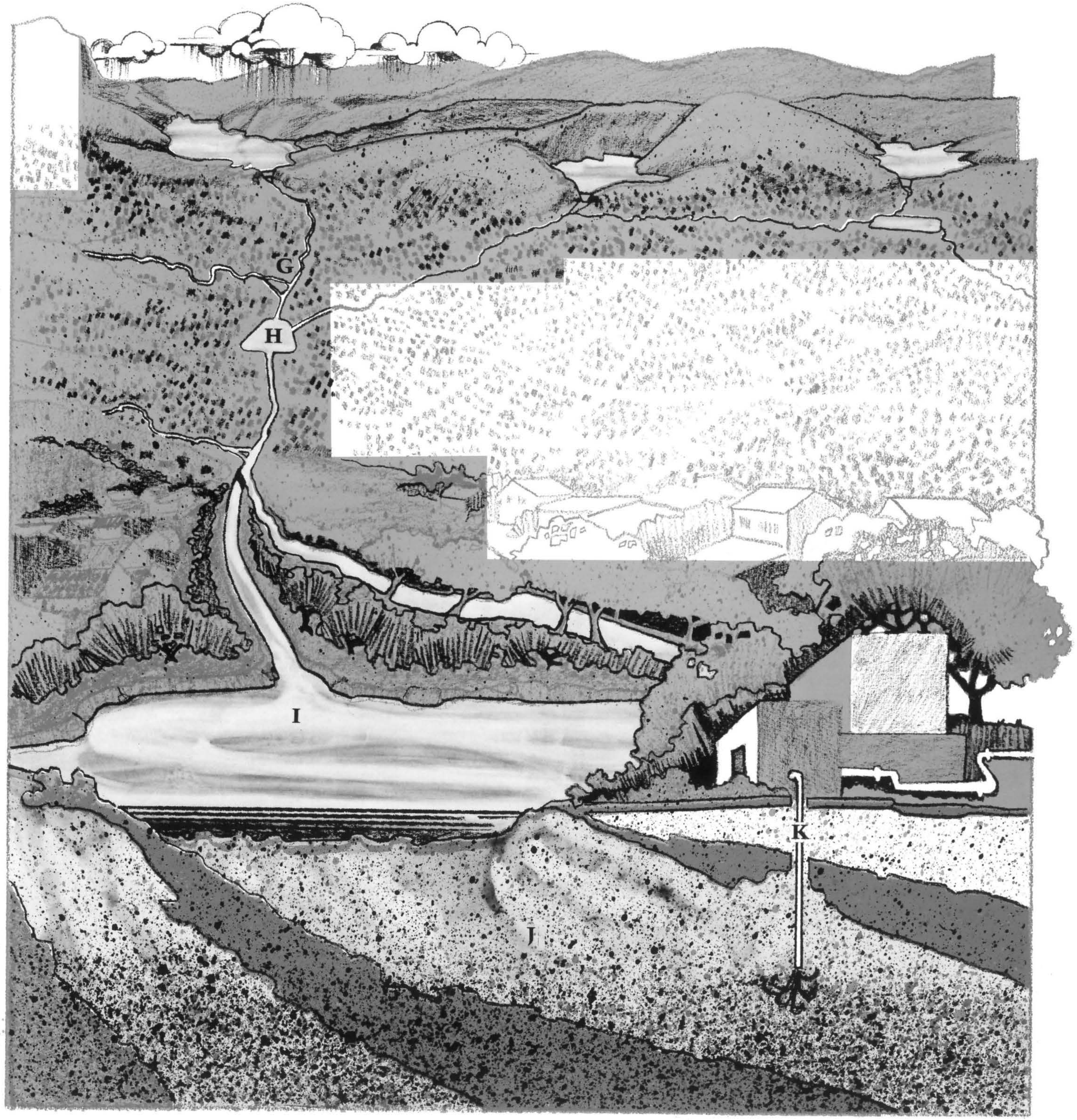


The water district's eight dams and reservoirs have two important attributes aside from their water conservation function. They are used for extensive recreation, and they provide some flood protection.

All of the reservoirs are leased to the Santa Clara County Department of Parks and Recreation for water sports, including powerboating on the larger reservoirs (Lexington, Anderson, Coyote, and Calero), sailing on all reservoirs, and fishing in all except Almaden, Calero, and Guadalupe (the fish are contaminated by eating natural deposits of mercury). Swimming is permitted in designated areas on some reservoirs. As part of its plan to import San Felipe water, the district will maintain minimum recreational pools in all its reservoirs unless water supply or safety considerations require them to be emptied.

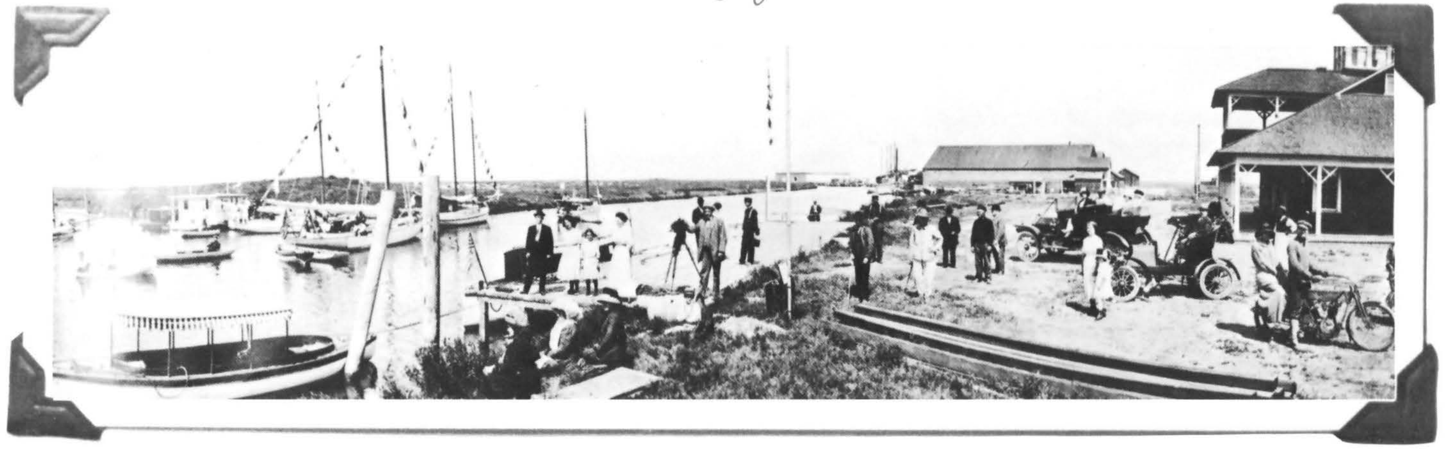
An important feature of the dams is that they are earthquake-resistant. They are constructed of carefully compacted earth materials, and, though they could conceivably move or shift slightly during an earthquake, they would still stay intact.

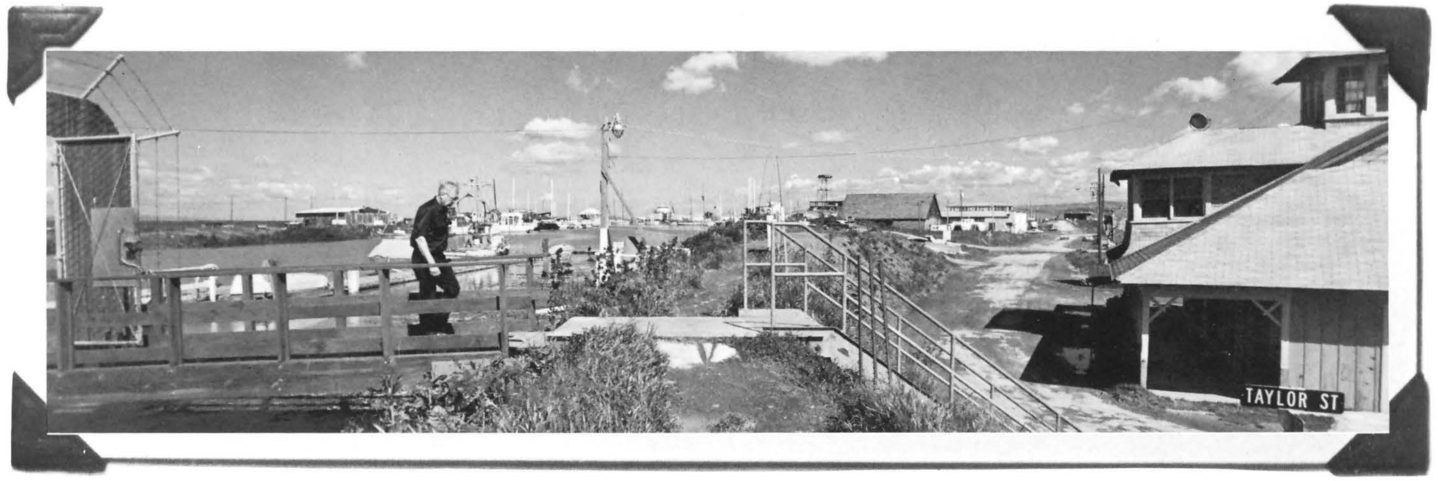
Anderson, Coyote, and Lexington are designed and operated to capture a very large flood and provide flood protection to the lands downstream. The other reservoirs are too small to provide substantial flood protection. All of the reservoirs can be used for a small amount of flood protection, depending on the size of the reservoir.



Alviso, 1914, before subsidence

South Bay Yacht Club in 1978 - below sea level!





Because of the huge storage capacity of this basin, Santa Clara Valley is in an enviable position when long dry spells occur. Unlike some other metropolitan areas which rely only on a surface supply of water and are most likely to be forced to impose water restrictions when supplies run low, the Valley can draw on the reserve supply that was placed into the basin during wet years. For example, it was because of the availability of the underground water supply that most of the Valley was able to face and overcome the historic droughts of 1976 and 1977 with minimal difficulty.

The district's water system was recognized as unique in 1976 by the American Society of Civil Engineers, which designated the system a historical landmark.

Land Surface Subsidence

Though underground water can be used as a reliable supply during droughts, it is vitally important not to pump out too much because of the threat of the groundwater basin's twin enemies—land surface subsidence and contamination by saltwater intrusion.

The land surface subsides, or sinks, because the water that is stored in clay layers is squeezed out when deep water pressure is lowered. The overlying weight of the soil compacts the clays. Land surface subsidence is permanent, no matter how much water is recharged into the water-bearing aquifers.

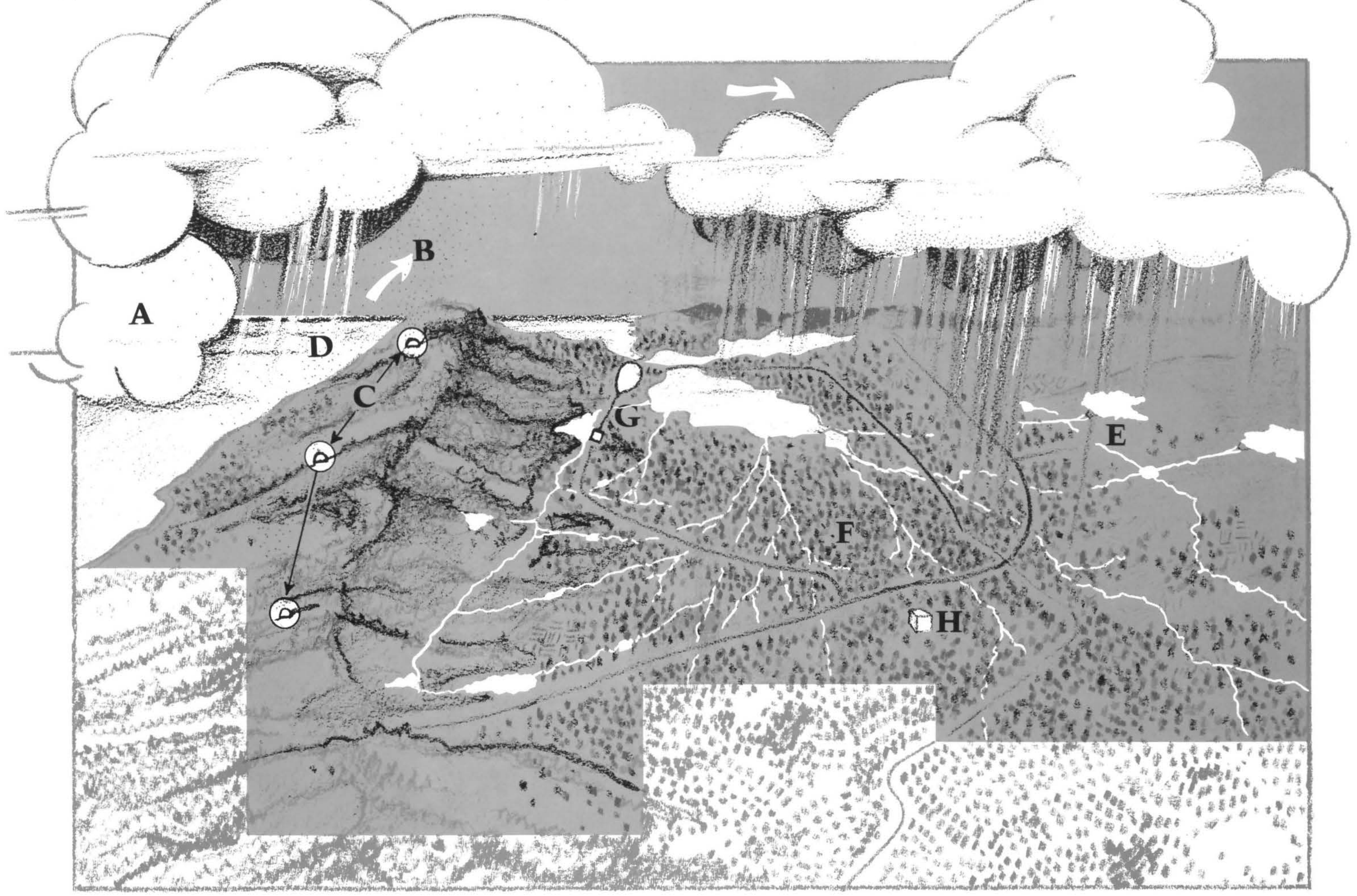
Reduced flood channel capacity, collapsed well casings, poor drainage, and damage to water and sewer lines are among the serious problems caused by land surface subsidence.

Dramatic evidence of the seriousness of subsidence can be seen by visiting Alviso, a baylands community located between Milpitas and Mountain View. Alviso land surface today is about 10 feet lower than it was 50 years ago. Only a high levee system keeps homes and business from being inundated by San Francisco Bay. Downtown San Jose's elevation is about 13 feet lower than it was in 1920.

In some areas near the bay, groundwater levels in shallow zones cannot be raised because of the fear of waterlogging the land. Here, seawater intrusion is a threat to deep, freshwater aquifers. One area where intrusion can be combated is at the Palo Alto shoreline, where the district injects reclaimed water through wells into the shallow aquifers.

Cloud Seeding in Santa Clara Valley

Clouds form over the Pacific Ocean (A) and move inland over the Santa Cruz Mountains. Air currents (B) rise on the western slopes of the mountains. Ground based generators (C) are fired up and release silver iodide crystals (D) that rise on the air currents into moisture-laden clouds. Rain falls on watersheds and is captured in reservoirs (E). Other rain falls on the Valley floor (F). Weather balloons (G) are released to gather storm data. Storms are monitored from a radar station (H).



Adding to the rainfall in the county by squeezing more rain from the clouds during certain favorable storms—often called cloud seeding—is the goal of the district's program of weather modification. This program, which began in 1952, is one of the oldest in the United States.

Only a small percentage of moisture from clouds that pass over the Valley ever reaches the ground in the form of rain. The effects of cloud seeding can increase the amount of rainfall between 10 and 15 percent over a winter. Increased rainfall occurs by introducing into the clouds artificial nuclei made up of silver iodide crystals. The crystals are used as cores for new raindrops.

Eighteen ground-based silver iodide generators, each small enough to fit into a telephone booth, are stationed in the mountainous areas of the county and neighboring counties, in the backyards of individual citizens. These public spirited people fire up the generators upon instruction from district weather experts—usually late on cold nights and almost invariably when it's raining.

Each generator produces a quadrillion nuclei every hour. As each nucleus is sent into the cloud, moisture attaches to it and freezes, giving off heat. The heat from this process causes the cloud top to rise further; the ice particles collect more moisture and grow larger as they rise. When gravity takes over and the ice crystals fall, they melt and become raindrops.

A several-stage process is used to decide which storms to seed. When rain is forecast, technicians check to see how much rain is expected and when the storm is due to start and stop. When it is three to six hours away, they may release a weather balloon to collect information on wind direction at various heights, temperatures, and barometric pressure.

When the rain starts falling they check for the possibility of flooding. If such a possiblity exists, they won't seed. If conditions are favorable, which means that if the wind is coming from the west to the southeast and the temperature inside the cloud is right, they decide which generators to light. As the storm progresses, another weather balloon is sent up to check conditions again, and the generators are adjusted to match the conditions. The entire storm is watched on radar.

Imported Water: More is Needed

Water brought in from outside the county is vital to the district's efforts to prevent overdrafting of the groundwater basin, reduce the threat of saltwater intrusion, and raise water table levels. Imported water comes into the Valley from the South Bay Aqueduct of the California State Water Project and the Hetch Hetchy pipeline of the San Francisco Water Department. The proposed federal San Felipe project should begin supplying water in the mid-1980s.

South Bay Aqueduct water has been imported into the north Valley for both direct treatment and groundwater recharge since 1965. The district is currently entitled to receive 88,000 acre-feet a year, and the quantity will increase to 100,000 acre-feet in 1994. About 35 percent is used to recharge the groundwater basin, and the remaining 65 percent is distributed to water retailers after being treated at the Rinconada or Penitencia Water Treatment Plants.

Both plants and their distribution networks were approved for construction in 1963 when voters okayed the sale of $42 million in general obligation bonds. Rinconada was finished in 1967 for $8 million and Penitencia in 1974 for $4 million. Both are designed and located to allow for expansion. The district plans to expand them in the early 1980s to accommodate expected increase in water demand. Rinconada's peak capacity of 80 million gallons a day (mgd) will be raised to 120 mgd, and Penitencia's peak capacity of 40 mgd will go up to 80 mgd. Water treated by the plants is delivered to water companies and cities (retailers) who, in turn, sell the water to homes and industry.

The South Bay Aqueduct is part of the giant California Water Project, which supplies communities in the northern Bay Area, San Joaquin Valley and Southern California. Water for the project originates far north in the Sierra Nevada and is captured in reservoirs such as Lake Oroville. The water is released to flow into the Sacramento-San Joaquin Delta and is pumped from the delta into the huge California Aqueduct. The South Bay Aqueduct branches off the California Aqueduct northeast of Livermore and enters Santa Clara County near Milpitas.

The Hetch Hetchy pipeline, owned and operated by the City of San Francisco, has brought water to parts of the north Valley since 1952. The water comes from the Hetch Hetchy Reservoir immediately north of Yosemite Valley. About 55,000 acre-feet a year is distributed to consumers in several north Valley cities. Hetch Hetchy water is purified before it enters the county. None of it is used for groundwater recharge.

The San Felipe project is expected to supply a yearly maximum of 152,500 acre-feet to the Valley. It will be constructed by the U. S. Bureau of Reclamation. The project will move water from existing federal reservoirs, through the Sacramento-San Joaquin Delta, under Pacheco Pass east of Gilroy, and finally to Coyote Creek at the base of Anderson Dam. First water deliveries are planned for 1984. The district's distribution system will start at Anderson Dam.

When the San Felipe supply is finally available for local use, the district will repay the federal treasury by purchasing water with revenues paid by municipal, industrial, and agricultural users. The district will build a series of new pipelines and pumping plants to mesh with the present in-county system. The planned local distribution system will be flexible enough to allow San Felipe water to be treated at existing and future water treatment plants.

Recycling and Using Water Wisely

Water reclamation and water savings are also supplies of "new" water for the people of Santa Clara Valley. By reclaiming or not using water that would ordinarily be wasted, that water is then available for another use.

Reclamation programs give advanced treatment to water recovered from sewage treatment plants. The projects not only reuse water but also provide a means of research on ways to make reclaimed water usable for every purpose in agriculture, industry, and homes.

$56 million revenue bonds pass vote in '77

The district's research on reclaimed water could have national and even worldwide significance.

The district's reclamation facilities are operating in Palo Alto and Gilroy, and plans are under way for reclamation projects in other areas.

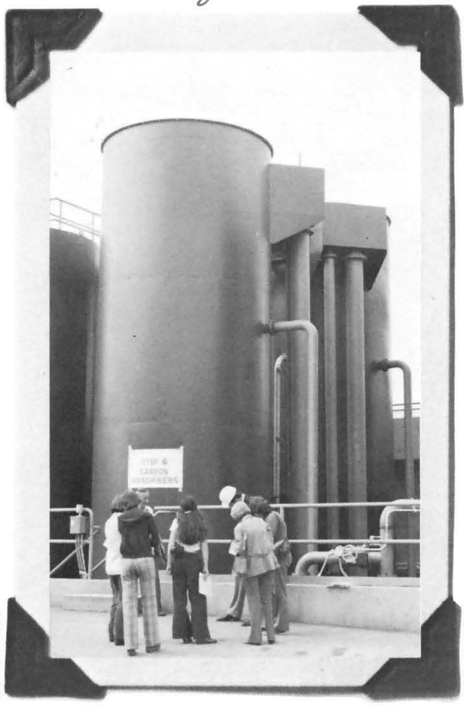
Water savings goals call for the conservation of tens of thousands of acre-feet every year by 2020. The plans to achieve these goals include a comprehensive public information program, water use education in public and private schools, revised building codes that require installation of water saving devices in all new construction, and widespread use of drought-resistant plants in public and private landscaping.

Getting rid of wasteful water-use habits could save more than 10 percent of our water supply without changing the community's quality of life.

Santa Clara County Fair

USE THESE WATER SAVING DEVICES IN YOUR HOME
HOW TO FIX YOUR LEAKY FAUCET

1977 Open House at Reclamation Facility in Palo Alto

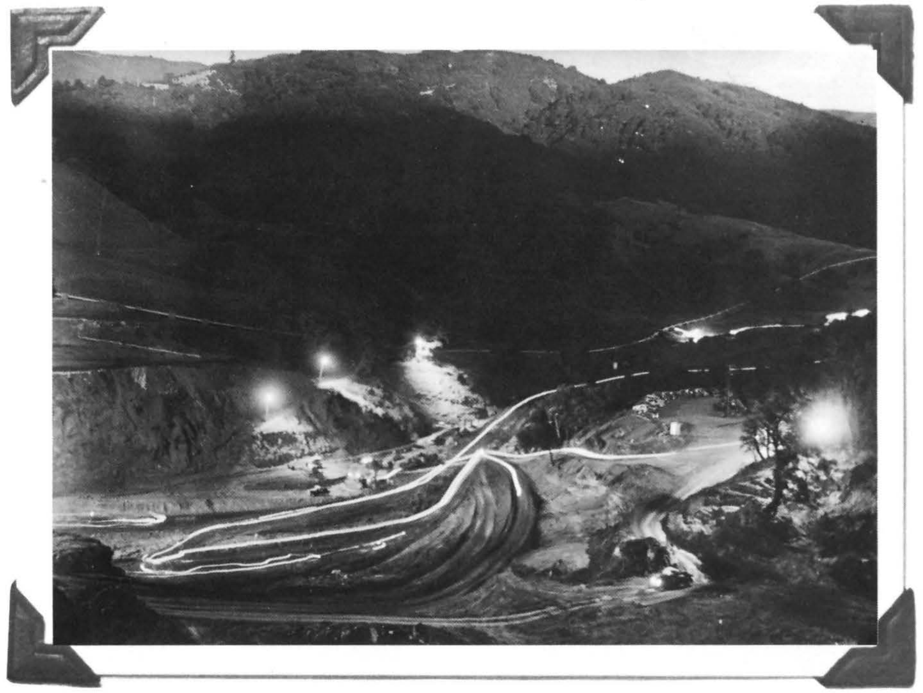


Chairman Courtland Rush of Gilroy (seated left) signs San Felipe contract with USBR, while other District directors enjoy ceremony

Half a century of Service

1st water from South Bay Aqueduct, 1965

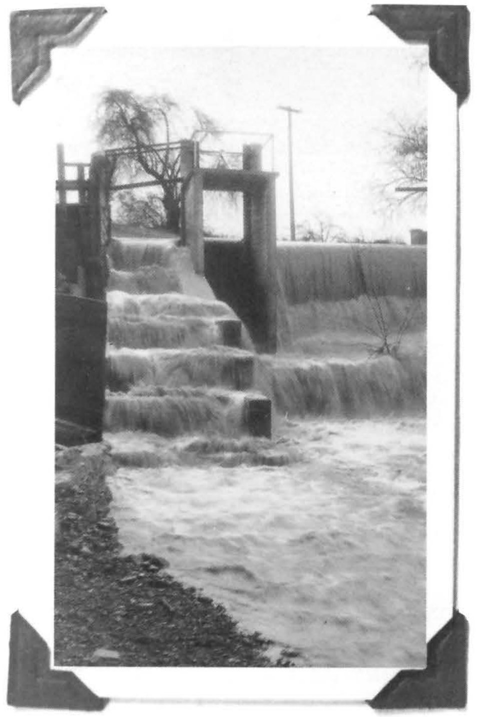
Around-the-clock construction of Lexington Dam ('52)



1964 construction of the Central Pipeline

District reservoirs are favorite recreation spots

Saratoga Creek Percolation Dam 1931



District's 1957 water recycling experiment

"Big" dam-building equipment of the 1930s

"The Valley of Heart's Delight," described so fondly by Roscoe Wyatt in 1923, is different today than it was then. But the Valley is still desirable—still one of the most attractive locations in the nation. The Santa Clara Valley Water District, after half a century, works to make sure that there is always enough water for the people who call the Valley their home—enough water to keep the Valley of Heart's Delight a green and beautiful land.

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Santa Clara Valley Water District

5750 Almaden Expressway
San Jose, California 95118
408/265-2600

Editor: James R. Melton
Graphics Coordinator: Richard M. Gates
Writer: Jan Ford

June 1978